

Fullname: _____

Student ID: _____

35 Marks

Final Mark

/ 35

InstructionsAnswer *all* the questionsNo electronic aid allowed (*no calculators, no cellphones*)

Mark allocation is indicated [in square brackets] on the right side of the questions

SECTION A - Multiple Choice Questions**[6 Marks] 1 Mark each***Use the following GRID to provide answers to the Multiple Choice Questions*

Question	Q1	Q2	Q3	Q4	Q5	Q6
Answer						

Given the following Java code segment:

```
int base;  
int sum = 1;  
int num = 5;  
  
base = num + 2 * 5 - 3 * 3;  
sum += sum + base;  
num = num + 27 / 2 ;  
  
System.out.println(sum);
```

- 1) What will be the value of the variable **base**?

A) 32

C) 9

B) 6

D) 96
- 2) What will be the value of the variable **num**?

A) 19

C) 18

B) 16

D) 17
- 3) What will be the **output displayed** from the above code segment?

A) 8

C) 98

B) 33

D) 11

4) Which of the following datatypes is the largest?

A) byte

C) int

B) float

D) char

5) What will be the output from the following Java code segment?

```
double n = 25.9755;  
System.out.printf( "%2.2f", n);
```

A) 25.97

C) a syntax error (no output)

B) 25.98

D) %2.2f, 25.9755

6) Given the following code, what will be the value of the variable **num3**?

```
String lang = "Python";  
int num3 = lang.indexOf("Pi");
```

A) 1

C) 0

B) a syntax error (no output)

D) -1

SECTION B – Long-answer Questions

Write your answers in the spaces provided

7) Write a Java statement which will display the following output

[2 Marks]

Output

John said "farewell", and left

Code:

8) Briefly explain the difference between a **syntax** error and a **logic** error?

[2 Marks]

Answer:

- 9) The following Java code segment contains errors. List all the errors in the code, for each error: indicate the **line number**, **describe the error** and state **corrected code** which would clear the error. **[14 Marks]**
(assume that any code above *line 5* and below *line 20* is correct)

```
5
6      String rainInput2;
7      String static = "Exponent";
8      int num1 = 0;
9      double rainfall = 0.0; \\ will store a number from the keyboard
10
11      rainInput = JOptionPane.showInput("null", "Please enter a number");
12      double rainfall = double.parseDouble(rainInput2)
13
14      num1 = rainfall;
15
16      \\ A simple multiplication program
17      float square = float ( num1 x num1 );
18
19      System.out.Print("The square is " + square);
20
```

Answer:

10) Write a program that reads user input from the keyboard and displays output based on the input **[11 marks]**

- the program should assume the user input is an 8 character **course code** (e.g. ICT 2010)
- the program should display the last 4 digits of the course code, each digit on a new line (**see the example output below**)
- Use a Scanner object to receive user input
- Write the full program code (including the public class)

Example Output

Please enter a course code

CVE 2022

2
0
2
2

Code:

Total: [35 marks]

